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TITLE: PRODUCTION OF HOT DIP ZN-AL-MG COATED STEEL
STRIP
EXCELLENT IN CORROSION RESISTANCE AND APPEARANCE
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INVENTOR-INFORMATION:

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ABSTRACT:

PROBLEM TO BE SOLVED: To produce a plated steel strip excellent in corrosion resistance, adhesion, and appearance by making a steel strip to pass continuously through a hot dipping bath, consisting of Al, Mg, and Zn and maintained at a specific bath temp., and spraying waterdrops on the whole surface of an unsolidified plating layer of the steel strip, drawn out from the bath, until the plating layer is solidified.

SOLUTION: The hot dip metal coated steel strip is obtained by passing a steel strip continuously through a hot dipping bath having a composition consisting of, by weight, 4.0-10% Al, 1.0-4.5% Mg, and the balance Zn with inevitable impurities. At this time, the temp. of the plating bath is maintained at a temp. between the melting point and 480deg;C. Further, the steel strip drawn out from the plating bath is sprayed with water or

aqueous solution in drops and cooled. This cooling operation is continuously applied to the whole surface of the unsolidified plating layer on the steel strip from before the starting of its solidification until the completion of solidification. By this method, the plating layer, having a metallic structure in which practically no $\text{Zn}_{11}\text{Mg}_2$ phase is contained and [Al primary crystal] or [Al primary crystal] and [Zn single phase] exist as a mixture in a matrix of [ternary eutectic structure of $\text{Al/Zn/Zn}_{11}\text{Mg}_2$], can be obtained.

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